a first light source configured to emit a first light flux having a first wavelength for recording and/or reproducing a second information recording medium provided with a transparent substrate;

a second light source configured to emit a second light flux having a second wavelength longer than the first wavelength, for recording and/or reproducing the first information recording medium provided with a transparent substrate;

a third light source configured to emit a third light flux having a third wavelength longer than the second wavelength, for recording and/or reproducing the third information recording medium provided with a transparent substrate having a thickness thicker than that of each of the first and second information recording mediums; and

an objective lens configured to converge the first, second and third light fluxes onto the second, first, and third optical information recording mediums respectively;

wherein when recording and/or reproducing information is conducted for the second information recording medium, the first light flux emitted from the first light source enters the objective lens as a parallel light flux and is converged on the second information recording medium,

when recording and/or reproducing information is conducted for the first information recording medium, the second light flux emitted from the second light source enters the objective lens as a parallel light flux and is converged on the first information recording medium, and

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when recording and/or reproducing information is conducted for the third information recording medium, the third light flux emitted from the third light source enters the objective lens as a parallel light flux and is converged on the third information recording medium.

138. The optical pickup apparatus of claim 137, wherein the first light flux having the first wavelength is a blue laser beam.

139. The optical pickup apparatus of claim 137, wherein the second optical information recording medium is a next-generation high density optical disk which information is recorded on and/or reproduced from with the blue laser beam.

140. The optical pickup apparatus of claim 137, wherein the thickness of the transparent substrate of the first optical information recording medium is equal to that of the second information recording medium.

141. The optical pickup apparatus of claim 137, wherein when NA2 is an image side numerical aperture of the objective lens necessary for recording and/or reproducing information for the first optical information medium, NA1 is an image side numerical aperture of the objective lens necessary for recording and/or reproducing information for the second optical information medium, and NA3 is an image side numerical aperture of the objective lens necessary for recording and/or reproducing information for the third optical information medium, NA1 and NA2 are larger than NA3.

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142. The optical pickup apparatus of claim 141, wherein NA1 is equal to NA2.

143. The optical pickup apparatus of claim 141, wherein when recording and/or reproducing information is conducted for the third optical information recording medium, a spherical aberration of a light flux having passed through a region of the objective lens having a numerical aperture larger than NA3 is flare on the third optical information recording medium.

144. The optical pickup apparatus of claim 137, wherein the objective lens comprises a ring-shaped diffractive surface.

145. The optical pickup apparatus of claim 137, wherein the objective lens comprises an aspherical refractive surface and a ring-shaped diffractive surface.

146. The optical pickup apparatus of claim 145, wherein the aspherical refractive surface and the ring-shaped diffractive surface correct spherical aberrations due to difference in wavelength among the first, second and third light fluxes and spherical aberrations due to difference in thickness of the transparent substrate among the first, second and third optical information mediums.

147. The optical pickup apparatus of claim 143, wherein the ring-shaped diffractive surface is designed by a phase difference function in which a coefficient of

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